Technical white paper

HP printers supported in Citrix XenApp server environments

Microsoft Terminal Server and Citrix environments

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Executive summary

Citrix® has collaborated with HP to test select HP printers and their associated HP print drivers in Citrix environments up to and including Citrix XenApp™ 6.5 with Microsoft® Windows® Server 2008 R2 Edition.

These tests were run to determine how HP printers and their associated printer drivers performed using the standard printer and printer-related features tests that Citrix uses to test its XenApp server and client software. This document lists all of the printers tested by HP in Citrix environments, explains the printer tests performed by Citrix, identifies which HP printers and printer driver versions were used, and describes any issues that occurred when these tests were performed.

Citrix has also collaborated with HP to test scanning functions on select HP All-in-One (AIO) devices and their associated HP TWAIN drivers in a XenApp environment. These tests were run to determine how HP AIO devices and their associated TWAIN drivers performed with the scan-related feature tests that Citrix uses to test its XenApp server and client software. This document explains the scan tests performed by Citrix, identifies which HP AIO devices and TWAIN driver versions were used, and describes any issues that occurred while these tests were being performed.

Target audience: Citrix XenApp print administrators.

This white paper describes testing performed in 2012.

What's new

- The tables of HP supported printers and drivers are updated. New devices are listed in **Bold Text**.
- Added support for XenApp 7.0 and 7.5
- Removed support for:
  - Citrix MetaFrame® Presentation Server 3.0
  - MetaFrame XP Presentation Server (Feature Release 1, 2, and 3)

Versions of Microsoft Terminal Server and Citrix supported by HP

- Windows Server 2012, 2012 R2 and 2008 R2
  - XenApp 6.0
  - XenApp 6.5
  - XenApp 7.5
- Windows Server 2008 x32 and x64 Edition Terminal Services
  - XenApp 5.0
  - XenApp 5.0 Feature Pack 2 and 3
- Windows Server 2008 Terminal Services
  - XenApp 5.0
  - XenApp 5.0 Feature Pack 2 and 3
- Windows Server 2003 x32 and x64 Edition Terminal Services
  - Citrix Presentation Server™ 4.5
  - Presentation Server 4.0
- Windows Server 2003 Terminal Services
  - Presentation Server 4.5
  - Presentation Server 4.0
  - Citrix MetaFrame® Presentation Server, 3.0
  - MetaFrame XP Presentation Server (Feature Release 1, 2, and 3)

Note
Microsoft has announced that Windows Server 2003 support is ending July 14, 2015.

Testing performed by HP and by Citrix

HP performs Windows Server/XenApp testing on its print drivers and is confident in the stability and functionality of the driver versions listed in this document. HP also screens all driver releases to verify that the drivers are free of memory leaks and memory allocation issues that might cause print spooler crashes or Citrix logon issues.

HP has selected a combination of LaserJet, Designjet, Business Inkjet, and Deskjet printers for Citrix to test as a representative sample of all printers in the HP printer family. Because the driver code bases of these printers are common to all printers in the HP printer family, the testing performed by Citrix on these select printers translates to all other HP printers.

All HP printers and their associated printer drivers listed in this document are supported by HP in Citrix environments. HP only supports the driver on the Citrix server and no other components from the CD-ROM supplied with the printer or printing system installed on the Citrix server are supported.

Feature testing by HP

The HP test team installs the print driver on the Citrix server, logs into a Citrix session, and verifies that printing is successful to client printers and network printers. The feature testing performed by HP is very similar to that achieved with the Citrix Interoperability Test Kit for the Citrix Ready program.

Stress testing by HP

HP performs stress testing of its print drivers in both Citrix and non-Citrix environments. HP tests its print drivers with the StressPrinters tool provided by Citrix to simulate a user logon where multiple printers are auto-created concurrently. HP also employs other printing stress suites to ensure its drivers are compatible and stable in Citrix environments and can stand up to the printing and auto-creation demands that are commonly experienced by a Citrix server.

HP LaserJet printers and supported driver versions

Table 1 identifies the LaserJet printers and minimum levels of associated drivers that are supported in Citrix environments by HP. These printers and printer drivers were tested by HP. For a description of issue resolutions and known product limitations, refer to Issues when using HP printers in Citrix environments.

Note
The driver versions in this table reflect the model-specific driver information that was available at the time of publication. Subsequent to publication, newer drivers may have been released; others may no longer be available for download from the HP website. For the most current driver information, please consult hp.com.

Note
For many of the devices listed below, the HP UPD can be used. Consult hp.com/go/upd to determine whether a particular device is supported by the HP UPD.

Table 1. HP LaserJet printers and supported drivers

HP printer	Supported in Citrix environment	HP-supported drivers (i)		
		Printer Control Language (PCL)	Host-based	Postscript (PS)
HP LaserJet Pro MFP M125, M126, M127, M128	No	N/A	Not supported (ii)	N/A
HP LaserJet Pro 100 Color MFP M175	Yes	All supported OS: HP UPD	N/A	All supported OS: HP UPD
HP Color LaserJet Pro MFP M177 series	Yes	All supported OS: HP UPD 5.8	N/A	All supported OS: HP UPD 5.8
HP LaserJet Pro M201/M202 series	Yes	61.165.1.17779 All supported OS: HP UPD 6.0.0	N/A	All supported OS: HP UPD 6.0.0
HP LaserJet Pro MFP M225/M226 series	Yes	61.165.1.17779 All supported OS: HP UPD 6.0.0	N/A	All supported OS: HP UPD 6.0.0
HP LaserJet Pro 200 color Printer M251 series	Yes	61.117.01.11493 All supported OS: HP UPD	N/A	All supported OS: HP UPD
HP LaserJet Pro 200 color MFP M275	Yes	All supported OS: HP UPD	N/A	All supported OS: HP UPD
HP LaserJet Pro 200 color MFP M276	Yes	61.117.01.11493 All supported OS: HP UPD	N/A	All supported OS: HP UPD
HP LaserJet Pro 300 color M351	Yes	All supported OS: HP UPD	N/A	All supported OS: HP UPD
HP LaserJet Pro 300 color MFP M375/M376	Yes	All supported OS: HP UPD	N/A	All supported OS: HP UPD
HP LaserJet Pro 400 M401	Yes	All supported OS: HP UPD	N/A	All supported OS: HP UPD
HP LaserJet Pro 400 MFP M425	Yes	All supported OS: HP UPD	N/A	All supported OS: HP UPD
HP LaserJet Pro M435 Multifunction Printer series	Yes	61.145.02.15674 All supported OS: HP UPD 5.7	N/A	61.145.02.15674 All supported OS: HP UPD 5.7
HP LaserJet Pro 400 color M451	Yes	All supported OS: HP UPD	N/A	All supported OS: HP UPD
HP LaserJet Pro 400 color MFP M475/M476	Yes	All supported OS: HP UPD	N/A	All supported OS: HP UPD
HP LaserJet Enterprise 500 M521	Yes	All supported OS: HP UPD	N/A	All supported OS: HP UPD

HP printer	Supported in Citrix environment	HP-supported drivers (i)		
		Printer Control Language (PCL)	Host-based	Postscript (PS)
HP LaserJet Enterprise 500 M525	Yes	61.121.04.12258 All supported OS: HP UPD	N/A	All supported OS: HP UPD
HP LaserJet Enterprise 500 color M551	Yes	61.114.01.10295 All supported OS: HP UPD	N/A	All supported OS: HP UPD
HP LaserJet Enterprise 500 color MFP M570	Yes	61.135.04.13697 All supported OS: HP UPD	N/A	All supported OS: HP UPD
HP LaserJet Enterprise 500 color MFP M575	Yes	61.121.04.12258 All supported OS: HP UPD	N/A	All supported OS: HP UPD
HP LaserJet Enterprise 600 M601/M602/M603	Yes	61.114.01.10295 All supported OS: HP UPD	N/A	All supported OS: HP UPD
HP LaserJet Enterprise MFP M630 series	Yes	61.165.01.17858 All supported OS: HP UPD 6.0.0	N/A	All supported OS: HP UPD 6.0.0
HP Color LaserJet Enterprise M651 Printer series	Yes	61.155.01.16824 All supported OS: HP UPD 5.8	N/A	61.155.01.16824 All supported OS: HP UPD 5.8
HP Color LaserJet Enterprise Multifunction M680 Printer series	Yes	61.155.01.16824 All supported OS: HP UPD 5.8	N/A	61.155.01.16824 All supported OS: HP UPD 5.8
HP LaserJet Pro M701 Printer series	Yes	61.155.01.16769 All supported OS: HP UPD 5.8	N/A	61.155.01.16769 All supported OS: HP UPD 5.8
HP LaserJet Pro M706 Printer series	Yes	61.155.01.16769 All supported OS: HP UPD 5.8	N/A	61.155.01.16769 All supported OS: HP UPD 5.8
HP LaserJet Enterprise 700 Printer M712	Yes	61.135.04.13681 All supported OS: HP UPD	N/A	All supported OS: HP UPD
HP LaserJet Enterprise MFP M725 series	Yes	All supported OS: HP UPD	N/A	All supported OS: HP UPD
HP Color LaserJet Enterprise M750 Printer series	Yes	61.155.01.16012 All supported OS: HP UPD 5.7	N/A	61.155.01.16012 All supported OS: HP UPD 5.7
HP LaserJet Enterprise 700 color MFP M775	Yes	61.135.04.13581 All supported OS: HP UPD	N/A	All supported OS: HP UPD
HP LaserJet Enterprise M806 Printer series	Yes	61.160.01.17538 All supported OS: HP UPD 5.7	N/A	61.160.01.17538 All supported OS: HP UPD 5.7

HP printer	Supported in Citrix environment	HP-supported drivers (i)		
		Printer Control Language (PCL)	Host-based	Postscript (PS)
HP LaserJet Enterprise flow MFP M830	Yes	61.145.02.15638 All supported OS: HP UPD 5.7.0	N/A	All supported OS: HP UPD 5.7.0
HP Color LaserJet Enterprise M855 Printer series	Yes	61.160.01.17538 All supported OS: HP UPD 5.7	N/A	61.160.01.17538 All supported OS: HP UPD 5.7
HP Color LaserJet Enterprise flow MFP M880	Yes	61.155.01.16012 All supported OS: HP UPD 5.7.0	N/A	All supported OS: HP UPD 5.7.0
HP Color LaserJet Enterprise flow MFP M885	Yes	All supported OS: HP UPD 5.7.0	N/A	All supported OS: HP UPD 5.7.0
HP Color MFP S951dn	Yes	All supported OS: HP UPD 5.8	N/A	All supported OS: HP UPD 5.8
HP MFP S956dn	Yes	All supported OS: HP UPD 5.8	N/A	All supported OS: HP UPD 5.8
HP Color MFP S962dn	Yes	All supported OS: HP UPD 5.8	N/A	All supported OS: HP UPD 5.8
HP Color MFP S970dn	Yes	All supported OS: HP UPD 5.8	N/A	All supported OS: HP UPD 5.8
LJ 1000	No	N/A	Not supported (ii)	N/A
LJ P1005	No	N/A	Not supported (ii)	N/A
LJ P1006	No	N/A	Not supported (ii)	N/A
LJ P1008	No	N/A	Not supported (ii)	N/A
LJ 1010/1012	Yes	N/A	Windows XP/ Windows Server 2003: 5.60.1604.0 2003-x64: Not supported Windows Vista®: 20080924	N/A
LJ 1015	Yes	XP/2003: 60.05.17.02 2003-x64: Use HP LaserJet 1200 driver included in the Windows OS	N/A	N/A
CLJ CM1015/ 1017 MFP	Yes	XP/2003/2003-x64: 60.061.442.00	N/A	XP/2003/ 2003-x64: 60.061.442.00
LJ 1018	No	N/A	Not supported (ii)	N/A
LJ 1020	No	N/A	Not supported (ii)	N/A
LJ 1022	Yes	Use HP LaserJet 6L PCL5e driver included in the Windows OS	Not supported (ii)	N/A
LJ Pro CP1025	No	N/A	Not supported (ii)	N/A

HP printer	Supported in Citrix environment	HP-supported drivers (i)		
		Printer Control Language (PCL)	Host-based	Postscript (PS)
LJ 1100	Yes	XP/2003: 4.3.2.201 2003-x64: Use HP LaserJet 1100 driver included in the Windows OS	N/A	N/A
LJ P1102w	No	N/A	Not supported (ii)	N/A
LaserJet Pro M1130/M1210 MFP series	No	N/A	Not supported (ii)	N/A
LJ 1150	Yes	XP/2003: 60.5.17.2 2003-x64: Use HP LaserJet 1200 driver included in the Windows OS All supported OS: HP UPD	N/A	All supported OS: HP UPD
LJ 1160	Yes	XP/2003: 61.063.461.42 2003-x64: Use HP LaserJet 1200 driver included in the Windows OS All supported OS: HP UPD	N/A	All supported OS: HP UPD
LJ 1200	Yes	XP/2003: 4.3.2.208 2003-x64: Use HP LaserJet 1200 driver included in the Windows OS All supported OS: HP UPD	N/A	XP/2003: 4.3.2.172 2003-x64: Use HP LaserJet 1200 driver included in the Windows OS All supported OS: HP UPD XP/X XP/2003: 4.3.2.172 2003-x64: Use HP LaserJet
HP LaserJet Pro M1212nf Multifunction Printer	No	N/A	Not supported (ii)	N/A
CLJ CP1215	No	N/A	Not supported (ii)	N/A
LJ 1300	Yes	XP/2003: 60.5.17.2 2003-x64: Use HP LaserJet 1200 driver included in the Windows OS All supported OS: HP UPD	N/A	XP/2003: 60.5.17.2 2003-x64: Use HP LaserJet 1200 driver included in the Windows OS All supported OS: HP UPD
CLJ CM1312 MFP	Yes	XP/2003/2003-x64: 61.72.53.0 All supported OS: HP UPD	N/A	All supported OS: HP UPD
HP LaserJet M1319f Multifunction	No	N/A	N/A	N/A

HP printer	Supported in Citrix environment	HP-supported drivers (i)		
		Printer Control Language (PCL)	Host-based	Postscript (PS)
LJ 1320	Yes	XP/2003: 61.063.461.42 2003-x64: Use HP LaserJet 1200 driver included in the Windows OS All supported OS: HP UPD	N/A	XP/2 XP/2003: 61.063.461.42 2003-x64: Use HP LaserJet 1200 driver included in the Windows OS All supported OS: HP UPD
LJ Pro CM1410 series	Yes	All supported OS: HP UPD	N/A	All supported OS: HP UPD
CLJ 1500	No	N/A	XP/2003: 1.00.1913.0 2003-x64: Not supported (ii)	N/A
LJ P1505	No	N/A	Not supported (ii)	N/A
LJ P1505n	Yes	XP/2003/2003-x64: 61.063.351.00	Not supported (ii)	N/A
CLJ CP1510 series	Yes	XP/2003/2003-x64: 61.72.52.0	Not supported (ii)	XP/2003/2003-x64: 61.72.52.0
CLJ CP1518	Yes	All supported OS: HP UPD	N/A	All supported OS: HP UPD
LJ Pro CP1520 series	Yes	All supported OS: HP UPD	N/A	All supported OS: HP UPD
LJ M1522 MFP series	Yes	XP/2003/2003-x64: 61.072.467.21	N/A	XP/2003/2003-x64: 61.072.467.21
LJ Pro M1530 MFP series	Yes	All supported OS: HP UPD	N/A	All supported OS: HP UPD
LJ Pro CP1525 series	Yes	All supported OS: HP UPD	N/A	All supported OS: HP UPD
LJ Pro M1536 series	Yes	All supported OS: HP UPD	N/A	All supported OS: HP UPD
CLJ 1600	No	N/A	Not supported (ii)	N/A
LJ P1600	No	N/A	Not supported (ii)	N/A
LJ P1606	No	N/A	Not supported (ii)	N/A
LJ P2010/ P2014	Yes	XP/2003/2003-x64: 61.063.351.0	N/A	N/A
LJ P2015	Yes	XP/2003/2003-x64: 60.063.461.42 Vista: 61.063.351.0	N/A	XP/2003/2003-x64: 60.063.461.42
CLJ CP2020/ 2025	Yes	XP/2003/2003-x64: 61.072.51.02 Vista: 61.063.351.0	N/A	All supported OS: HP UPD
LJ P2035	No	Not supported	Not supported (ii)	N/A
LJ P2050/2055	Yes	XP/2003/2003-x64: 61.82.242.0 All supported OS: HP UPD	N/A	XP/2003/2003-x64: 61.82.242.0 All supported OS: HP UPD

HP printer	Supported in Citrix environment	HP-supported drivers (i)		
		Printer Control Language (PCL)	Host-based	Postscript (PS)
LJ 2100	Yes	XP/2003: 4.27.2100.410 2003-x64: Use HP LaserJet 2100 driver included in the Windows OS All supported OS: HP UPD	N/A	XP/2003: 4.0 2003-x64: Use HP LaserJet 2100 driver included in the Windows OS
LJ 2200	Yes	XP/2003: 4.27.2200.410 2003-x64: Use HP LaserJet 2200 driver included in the Windows OS All supported OS: HP UPD	N/A	XP/2003: 2.0 2003-x64: Use HP LaserJet 2200 driver included in the Windows OS All supported OS: HP UPD
LJ 2300	Yes	XP/2003/2003-x64: 60.051.501.32 Vista: 61.063.461.42 All supported OS: HP UPD	N/A	XP/2003/2003-x64: 60.051.501.32 Vista: 61.063.461.42 All supported OS: HP UPD
CLJ CM2320 MFP	Yes	XP/2003/2003-x64: 61.072.42.00 Vista: 61.063.461.42 All supported OS: HP UPD	N/A	All supported OS: HP UPD
LJ 2410/2420/ 2430	Yes	XP/2003/2003-x64: 61.074.561.43 Vista: 61.074.561.43 All supported OS: HP UPD	N/A	XP/2003/2003-x64: 61.074.561.43 Vista: 61.074.561.43 All supported OS: HP UPD
CLJ 2500	Yes	XP/2003: 4.20.2500.430 2003-x64: Use HP Color LaserJet 4550 driver included in the Windows OS All supported OS: HP UPD	N/A	XP/2003: 1.0.0.0 2003-x64: Use HP Color LaserJet 4550 driver included in the Windows OS All supported OS: HP UPD
CLJ 2550	Yes	XP/2003: 60.34.78.41 2003-x64: Use HP Color LaserJet 4550 driver included in the Windows OS Vista/2008/Win7: 60.063.461.42	N/A	XP/2003: 60.34.78.41 2003-x64: Use HP Color LaserJet 4550 driver included in the Windows OS Vista/2008/Win7: 60.063.461.42
CLJ 2600	No	N/A	Not supported (ii)	N/A
CLJ 2605	Yes	XP/2003/2003-x64: 60.063.461.42	N/A	XP/2003/2003-x64: 60.063.461.42
CLJ 2700	Yes	XP/2003/2003-x64: 60.061.447.00 Vista/2008/Win7: 60.063.461.42	N/A	XP/2003/2003-x64: 60.061.447.00 Vista/2008/Win7: 60.063.461.42
LJ M2727 MFP	Yes	XP/2003/2003-x64: 61.072.48.00b Vista: 61.072.471.21 All supported OS: HP UPD	N/A	XP/2003/2003-x64: 61.072.48.00b Vista: 61.072.471.21 All supported OS: HP UPD

HP printer	Supported in Citrix environment	HP-supported drivers (i)		
		Printer Control Language (PCL)	Host-based	Postscript (PS)
LJ 2820/ 2830/2840	Yes	XP/2003: 60.034.41.00 2003-x64: Use HP LaserJet 2400 driver All supported OS: HP UPD	N/A	XP/2003: 60.034.41.00 2003-x64: Use the HP LaserJet 2400 driver All supported OS: HP UPD
CLJ 3000	Yes	XP/2003/2003-x64: 61.071.661.41 All supported OS: HP UPD	N/A	XP/2003/2003-x64: 61.071.661.41 All supported OS: HP UPD
LJ P3005	Yes	XP/2003/2003-x64: 61.074.561.43 Vista/2008/Win7: 61.074.561.43 All supported OS: HP UPD	N/A	XP/2003/2003-x64: 61.074.561.43 Vista/2008/Win7: 61.074.561.43 All supported OS: HP UPD
LJ 3015	Yes	All supported OS: HP UPD	N/A	N/A
LJ 3020/3030	Yes	XP/2003: 60.5.72.21 2003-x64: Use HP LaserJet P3005 driver All supported OS: HP UPD	N/A	XP/2003: 60.5.72.21 2003-x64: Use HP LaserJet P3005 driver All supported OS: HP UPD
LJ M3027/ M3035 MFP	Yes	XP/2003/2003-x64: 61.071.661.32 Vista: 61.082.61.41 All supported OS: HP UPD	N/A	XP/2003/2003-x64: 61.071.661.32 Vista: 61.082.61.41 All supported OS: HP UPD
LJ 3050/3052/ 3055	Yes	XP/2003: 60.051.564.021 2003-x64: Use HP LaserJet P3005 driver All supported OS: HP UPD	N/A	XP/2003: 60.051.1243.00 2003-x64: Use HP LaserJet P3005 driver All supported OS: HP UPD
LJ 3100	Yes	Use HP LaserJet Series II driver included in the Windows OS All supported OS: HP UPD	N/A	N/A
LJ 3150	Yes	Use HP LaserJet Series II driver included in the Windows OS All supported OS: HP UPD	N/A	N/A
LJ 3200	Yes	XP/2003: 4.3.2.208 2003-x64: Use HP LaserJet 3200 driver included in the Windows OS All supported OS: HP UPD	N/A	N/A
LJ 3300 MFP	Yes	XP/2003: 4.19.3300.3 2003-x64: Use HP LaserJet P3005 driver All supported OS: HP UPD	N/A	XP/2003: 4.13.3300.9 2003-x64: Use HP LaserJet P3005 driver All supported OS: HP UPD
LJ 3380	Yes	XP/2003: 60.5.72.21 2003-x64: Use HP LaserJet P3005 driver All supported OS: HP UPD	N/A	XP/2003: 60.5.72.21 2003-x64: Use HP LaserJet P3005 driver All supported OS: HP UPD

HP printer	Supported in Citrix environment	HP-supported drivers (i)		
		Printer Control Language (PCL)	Host-based	Postscript (PS)
LJ 3390/3392	Yes	XP/2003: 60.051.564.021 2003-x64: Use HP LaserJet P3005 driver All supported OS: HP UPD	N/A	XP/2003: 60.051.564.021 2003-x64: Use HP LaserJet P3005 driver All supported OS: HP UPD
CLJ 3500	Yes	N/A	XP/2003: 61.063.461.41 2003-x64: Use HP Color LaserJet 3550 driver	N/A
CLJ CP3505	Yes	XP/2003/2003-x64/Vista/ 2008: 61.082.61.41 All supported OS: HP UPD	N/A	XP/2003/2003-x64/ Vista/2008: 61.082.61.41 All supported OS: HP UPD
CLJ CP3520/ 3525	Yes	XP/2003/2003-x64: 61.082.41.00 Vista/2008: 61.082.61.41 All supported OS: HP UPD	N/A	XP/2003/2003-x64: 61.082.41.00 Vista: 61.082.61.41 All supported OS: HP UPD
CLJ CM3530 MFP	Yes	XP/2003/2003-x64: 61.082.41.00 Vista/2008/Win7: 61.093.01.27	N/A	All supported OS: HP UPD
CLJ 3550	Yes	N/A	XP/2003/2003-x64: 60.32.42.00 Vista: 61.063.461.41	N/A
CLJ 3600	Yes	N/A	XP/2003/2003-x64: 61.082.61.41	N/A
CLJ 3700	Yes	XP/2003/2003-x64/Vista: 61.071.661.41 All supported OS: HP UPD	N/A	XP/2003/2003-x64/Vista: 61.071.661.41 All supported OS: HP UPD
CLJ 3800	Yes	XP/2003/2003-x64/Vista: 61.071.661.41 All supported OS: HP UPD	N/A	XP/2003/2003-x64/Vista: 61.071.661.41 All supported OS: HP UPD
LJ 4000	Yes	XP/2003: 4.27.4000.400 2003-x64: Use HP LaserJet 4000 driver included in the Windows OS All supported OS: HP UPD	N/A	XP/2003: 4.0 2003-x64: Use HP LaserJet 4000 driver included in the Windows OS All supported OS: HP UPD
CLJ CP4005	Yes	XP/2003/2003-x64/Vista: 61.071.661.41 All supported OS: HP UPD	N/A	XP/2003/2003-x64/ Vista: 61.071.661.41 All supported OS: HP UPD
LJ P4014	Yes	XP/2003/2003-R2/Vista: 61.082.75.21 All supported OS: HP UPD	N/A	XP/2003/2003-R2/Vista: 61.082.75.21 All supported OS: HP UPD
CLJ CP4025	Yes	XP/2003/ 2003-x64/Vista/ 2008/Win7: 61.091.12.102	N/A	All supported OS: HP UPD

HP printer	Supported in Citrix environment	HP-supported drivers (i)		
		Printer Control Language (PCL)	**Host-based**	**Postscript (PS)**
LJ 4015	Yes	*PCL5:* XP/2003/2003-x64: 61.081.32.00 *PCL6:* XP/2003/2003-x64: 61.072.51.02 Vista/2008: 61.082.75.21 All supported OS: HP UPD	N/A	XP/2003/2003-x64: 61.081.32.00 Vista/2008: 61.082.75.21 All supported OS: HP UPD
LJ 4050	Yes	XP/2003: 4.27.4050.410 2003-x64: Use HP LaserJet 4050 driver included in the Windows OS All supported OS: HP UPD	N/A	XP/2003: 4.0_1.30 2003-x64: Use HP LaserJet 4050 driver included in the Windows OS All supported OS: HP UPD
LJ 4100/ 4101 MFP	Yes	XP/2003: 4.27.4100.441 2003-x64: Use HP LaserJet 4100 driver included in the Windows OS All supported OS: HP UPD	N/A	XP/2003: 3.0.8 2003-x64: Use HP LaserJet 4100 driver included in the Windows OS All supported OS: HP UPD
LJ 4200	Yes	XP/2003/2003-x64: 61.074.561.43 All supported OS: HP UPD	N/A	XP/2003/2003-x64: 61.074.561.43 All supported OS: HP UPD
LJ 4240/4250	Yes	XP/2003/2003-x64: 61.074.561.43 All supported OS: HP UPD	N/A	XP/2003/2003-x64: 61.074.561.43 All supported OS: HP UPD
LJ 4300	Yes	XP/2003/2003-x64: 61.074.561.43 All supported OS: HP UPD	N/A	XP/2003/2003-x64: 61.074.561.43 All supported OS: HP UPD
LJ 4345 MFP	Yes	XP/2003/2003-x64: 61.071.661.41 All supported OS: HP UPD	N/A	XP/2003/2003-x64: 61.071.661.41 All supported OS: HP UPD
LJ M4345 MFP	Yes	XP/2003/2003-x64: 61.071.661.41 Vista/2008: 61.082.61.41 All supported OS: HP UPD	N/A	XP/2003/2003-x64: 61.071.661.41 Vista/2008: 61.082.61.41 All supported OS: HP UPD
LJ 4350	Yes	XP/2003/2003-x64: 61.074.561.43 All supported OS: HP UPD	N/A	XP/2003/2003-x64: 61.074.561.43 All supported OS: HP UPD
CLJ 4500	Yes	XP/2003: 4.27.4500.400 2003-x64: Use HP Color LaserJet 4500 driver included in the Windows OS All supported OS: HP UPD	N/A	XP/2003: 4.1.1 2003-x64: Use HP Color LaserJet 4500 driver included in the Windows OS All supported OS: HP UPD

HP printer	Supported in Citrix environment	HP-supported drivers (i)		
		Printer Control Language (PCL)	**Host-based**	**Postscript (PS)**
LJ 4515	Yes	*PCL5:* XP/2003/2003-x64/ Vista: 61.081.32.00 All supported OS: HP UPD *PCL6:* XP/2003/2003-x64: 61.072.51.02 All supported OS: HP UPD	N/A	XP/2003/2003-x64/Vista: 61.081.32.00 All supported OS: HP UPD
CLJ CP4525	Yes	Win7/Vista/XP/2003/ 2003-x64/2008: 61.091.12.102	N/A	All supported OS: HP UPD
CLJ CM4540 MFP	Yes	All supported OS: HP UPD	N/A	All supported OS: HP UPD
CLJ 4550	Yes	XP/2003: 4.27.4550.400 2003-x64: Use HP Color LaserJet 4550 driver included in the Windows OS All supported OS: HP UPD	N/A	XP/2003: 5.00.2195.2307 2003-x64: Use HP Color LaserJet 4550 driver included in the Windows OS All supported OS: HP UPD
LJ M4555 MFP	Yes	XP/2003/2003-R2/Vista/ 2008/Win7/2008 R2: 61.109.09.8874	N/A	XP/2003/2003-R2/Vista/ 2008/Win7/2008 R2: 61.109.09.8874
CLJ 4600	Yes	*PCL5:* XP/2003: 4.27.4600.440 *PCL6:* XP/2003/2003-x64/ Vista: 61.071.661.41 All supported OS: HP UPD	N/A	XP/2003/2003-x64/Vista: 61.071.661.41 All supported OS: HP UPD
CLJ 4650	Yes	XP/2003/2003-x64/Vista: 61.071.661.41 All supported OS: HP UPD	N/A	XP/2003/2003-x64/Vista: 61.071.661.41 All supported OS: HP UPD
CLJ 4700	Yes	XP/2003/2003-x64: 61.071.661.41 Vista/2008: 61.082.61.41 All supported OS: HP UPD	N/A	XP/2003/2003-x64: 61.071.661.41 Vista/2008: 61.082.61.41 All supported OS: HP UPD
CLJ 4730 MFP	Yes	XP/2003/2003-x64: 61.071.661.41 Vista/2008: 61.082.61.41 All supported OS: HP UPD	N/A	XP/2003/2003-x64: 61.071.661.41 Vista/2008: 61.082.61.41 All supported OS: HP UPD
CLJ CM4730 MFP	Yes	XP/2003/2003-x64: 61.082.61.41 Vista/2008: 61.082.61.41 All supported OS: HP UPD	N/A	XP/2003/2003-x64: 61.082.61.41 Vista/2008: 61.082.61.41 All supported OS: HP UPD
LJ 5000	Yes	XP/2003: 4.27.5000.400 2003-x64: Use HP LaserJet 5000 driver included in the Windows OS All supported OS: HP UPD	N/A	XP/2003: 4.0 2003-x64: Use HP LaserJet 5000 driver included in the Windows OS All supported OS: HP UPD

HP printer	Supported in Citrix environment	HP-supported drivers (i)		
		Printer Control Language (PCL)	**Host-based**	**Postscript (PS)**
LJ M5025/ M5035 MFP	Yes	XP/2003/2003-x64: 61.071.661.41 Vista/2008: 61.082.61.41 All supported OS: HP UPD	N/A	XP/2003/2003-x64: 61.071.661.41 Vista/2008: 61.082.61.41 All supported OS: HP UPD
LJ 5100	Yes	*PCL6:* XP/2003/2003-x64/ Vista/2008: 61.074.561.43 All supported OS: HP UPD *PCL5:* All supported OS: HP UPD	N/A	XP/2003/2003-64/Vista/ 2008: 61.074.561.43 All supported OS: HP UPD
LJ 5200/5200L	Yes	XP/2003/ 2003-x64/Vista/ 2008: 61.074.561.43 All supported OS: HP UPD	N/A	XP/2003/ 2003-x64/Vista/2008: 61.074.561.43 All supported OS: HP UPD
CLJ CP5220	Yes	Win7/Vista/XP/2003/ 2003-x64/2008: 1.1	N/A	All supported OS: HP UPD
CLJ CP5225 series	Yes	All supported OS: HP UPD	N/A	All supported OS: HP UPD
CLJ CP5520 series	Yes	All supported OS: HP UPD	N/A	All supported OS: HP UPD
CLJ CP5525 series	Yes	XP/2003/2003-R2/Vista/ 2008/Win7/2008 R2: 61.105.15.7867	N/A	All supported OS: HP UPD
LJ 5500	Yes	*PCL6:* XP/2003/ 2003-x64/ Vista: 60.071.661.41 All supported OS: HP UPD *PCL5:* All supported OS: HP UPD	N/A	XP/2003/2003-x64/Vista: 60.071.661.41 All supported OS: HP UPD
CLJ 5550	Yes	*PCL6:* XP/2003/2003-x64: 60.071.661.41 Vista/2008: 61.082.61.41 All supported OS: HP UPD	N/A	XP/2003/2003-x64: 60.071.661.41 Vista/2008: 61.082.61.41 All supported OS: HP UPD
CLJ CP6015	Yes	*PCL6:* XP/2003/2003-x64: 61.081.41.02 Vista: 61.082.61.41 All supported OS: HP UPD	N/A	XP/2003/2003-x64: 61.081.41.02 Vista: 61.082.61.41 All supported OS: HP UPD
CLJ CM6030/CM6040 MFP	Yes	*PCL6:* XP/2003/2003-x64: 61.081.41.02 Vista/2008: 61.082.61.41 All supported OS: HP UPD	N/A	XP/2003/2003-x64: 61.081.41.02 All supported OS: HP UPD

HP printer	Supported in Citrix environment	HP-supported drivers (i)		
		Printer Control Language (PCL)	Host-based	Postscript (PS)
LJ 8000	Yes	XP/2003: 4.27.8000.441 2003-x64: Use HP LaserJet 8000 driver included in the Windows OS	N/A	XP/2003: 4.0 2003-x64: Use HP LaserJet 8000 driver included in the Windows OS All supported OS: HP UPD
LJ 8100	Yes	XP/2003: 4.27.8100.410 2003-x64: Use HP LaserJet 8100 driver included in the Windows OS	N/A	XP/2003: 4.0 2003-x64: Use HP LaserJet 8100 driver included in the Windows OS
LJ 8150	Yes	XP/2003: 4.27.8150.410 2003-x64: Use HP LaserJet 8150 driver included in the Windows OS All supported OS: HP UPD	N/A	XP/2003: 2.0.5 2003-x64: Use HP LaserJet 8150 driver included in the Windows OS All supported OS: HP UPD
CLJ 8500	Yes	XP/2003: 1.0 2003-x64: Use HP LaserJet 8500 driver included in the Windows OS	N/A	XP/2003: 4.01 2003-x64: Use HP LaserJet 8500 driver included in the Windows OS
CLJ 8550	Yes	XP/2003: 4.27.8550.440 2003-x64: Use HP Color LaserJet 8550 driver included in the Windows OS All supported OS: HP UPD	N/A	XP/2003: 4.27.8550.440 2003-x64: Use HP Color LaserJet 8550 driver included in the Windows OS All supported OS: HP UPD
LJ 9000/9000 MFP	Yes	*PCL6:* XP/2003/2003-x64/ Vista/2008: 61.074.561.43 All supported OS: HP UPD *PCL5:* All supported OS: HP UPD	N/A	XP/2003/2003-x64/ Vista/2008: 61.074.561.44 All supported OS: HP UPD
LJ 9040/9050	Yes	XP/2003/ 2003-x64/Vista/ 2008: 61.074.561.43 All supported OS: HP UPD	N/A	XP/2003/ 2003-x64/Vista/ 2008: 61.074.561.43 All supported OS: HP UPD
LJ 9040 MFP/ 9050 MFP	Yes	XP/2003/2003-x64: 61.071.661.41 Vista/2008: 61.074.561.43 All supported OS: HP UPD	N/A	XP/2003/2003-x64: 61.071.661.41 Vista/2008: 61.074.561.43 All supported OS: HP UPD
LJ 9055 MFP	Yes	*PCL5:* XP/2003: 60.33.176.32 *PCL6:* XP/2003: 60.33.189.21 2003-x64: Use HP LaserJet 9040 driver All supported OS: HP UPD	N/A	XP/2003: 60.33.104.43 2003-x64: Use HP LaserJet 9040 driver All supported OS: HP UPD

HP printer	Supported in Citrix environment	HP-supported drivers (i)		
		Printer Control Language (PCL)	Host-based	Postscript (PS)
LJ 9065 MFP	Yes	*PCL5:* XP/2003: 60.33.176.32 *PCL6:* XP/2003: 60.33.189.21 2003-x64: Use HP LaserJet 9040 driver All supported OS: HP UPD	N/A	XP/2003: 60.33.104.43 2003-x64: Use HP LaserJet 9040 driver All supported OS: HP UPD
CLJ 9500	Yes	XP/2003/2003-x64/ Vista/2008: 61.082.61.41 All supported OS: HP UPD	N/A	XP/2003/2003-x64/ Vista/2008: 61.082.61.41 All supported OS: HP UPD
CLJ 9500 MFP	Yes	XP/2003/2003-x64/ Vista/2008: 61.082.61.41 All supported OS: HP UPD	N/A	XP/2003/2003-x64/ Vista/2008: 61.082.61.41 All supported OS: HP UPD
LJ 4, 5, 6 Family	Yes	XP/2003: 02.12.01 2003-x64/Vista/2008/ Win7: Use driver included in the Windows OS	N/A	XP/2003: 4.0 2003-x64/Vista/ 2008/ Win7: Use driver included in the Windows OS

(i) There may be a newer driver version for your HP device at hp.com that is also supported. However, the driver versions listed in this table are acceptable and are supported.

(ii) HP does not recommend installing these host-based LaserJet drivers on the Citrix server; however, the devices may function by using the Citrix UPD on the Citrix server with the HP host-based driver installed on the client. Print drivers for your product may be available within the Windows 7 operating system.

HP color multifunction printers with HP Edgeline Technology and supported driver versions

Table 2 identifies the HP color multifunction printers with Edgeline technology, along with the minimum levels of associated drivers that are supported in Citrix environments by HP. These printers and printer drivers were tested by HP. For a description of issue resolutions and known product limitations, refer to Issues when using HP printers in Citrix environments.

Note
The driver versions in this table reflect the information that was available at the time of publication. Subsequent to publication, newer drivers may have been released, and some drivers may no longer be available for download from the HP website. For many of the devices listed below, the HP UPD can be used. For the most current driver information, please consult hp.com.

Table 2. HP color multifunction printers with Edgeline technology and supported drivers

HP printer	Supported in Citrix environment	HP-supported drivers (i)		
		Printer Control Language (PCL)	Host-based	Postscript (PS)
CM8050/8060 MFP	Yes	XP/2003/2003-x64: 61.073.43.00	N/A	XP/2003/2003-x64: 61.073.43.00

(i) There may be a newer driver version for your HP device at hp.com that is also supported. However, the driver versions listed in this table are acceptable and are supported.

Using the HP UPD in Citrix environments

The HP UPD version 5.7.x, freely available at hp.com/go/upd, is supported by HP in Citrix and Terminal Server environments. HP has tested the HP Universal Print PCL 5 driver, HP Universal Print PCL 6 driver, and the HP Universal PS emulation driver in Citrix environments.

Citrix Ready status

UPD 5.5 PCL 5, PCL 6, and PS (64-bit) are listed as Citrix Ready. UPD 5.8 PCL 6, and PS (32 and 64-bit) are listed as Citrix Ready. See citrix.com/ready/en/hewlett-packard/hp-universal-printer-driver for more information.

Traditional Mode

The HP UPD can be installed in Traditional Mode on the Citrix server and will perform as a print driver for all compatible auto-created printers or redirected printers.

For auto-created printers, the HP Universal Print PCL 5 driver can be mapped to print to all PCL 5-capable HP client printers. Similarly, the HP Universal Print PS emulation driver can be mapped to print to all PS-capable HP client printers through driver mapping in the Citrix management tools.

To install the HP UPD in Traditional Mode, download the software from hp.com/go/upd and run `install.exe` from the command line on the server; alternatively, you can use the Add Printer Wizard or the Add Printer Driver Wizard. You can then configure mapping from within the Citrix server.

For Terminal Server 2003 SP1 configurations, the HP UPD can be configured as the PCL or PS fallback driver when installed in Traditional Mode.

See hp.com/go/upd for more information and white papers on the HP UPD.

Dynamic Mode

Installing the HP UPD on clients in Dynamic Mode
The following scenarios are supported:

- Installing and using the HP UPD in Dynamic Mode on Citrix and Terminal Server clients
- Using the HP UPD as an auto-created printer in a Citrix or Terminal Services session

However, you need to be alerted to the following caveats:

- When a job is printed from within the Citrix or Terminal Services session, no Dynamic Mode UI is presented. The print job will automatically print to the last printer that was selected on the client.
- If the UPD Dynamic Mode installation is new and no printing has been done before, UPD Dynamic Mode will default to LPT1. If there is not a printer connected to LPT1, the print job will fail.

If you wish to change the physical printer where the job will be sent, there are two options:

- The HP UPD is installed on clients in Dynamic Mode, and the Citrix auto-create policy is configured so that the Citrix UPD is the driver that is mapped to the HP UPD on the client. This is the recommended scenario.

  The following steps can be performed from within a Citrix session:
  - After selecting **Print** from within an application, select **Preferences**.
  - When the Citrix UPD UI appears, select **Local Driver**.
  - The UPD Dynamic Mode UI will be displayed. You can then select the desired printer.
  - When the UPD print preferences UI is displayed, you may click Cancel.
- The HP UPD is installed as a driver on the Citrix or Terminal server and mapped to the Dynamic Mode UPD on the clients

  You must perform the following steps prior to logging in to a Citrix session or published application:
  - Open the Printers folder and select **Dynamic Mode UPD printer**.
  - Right click the printer and select **Printing Preferences**.
  - The UPD Dynamic Mode UI will be displayed. You can then select the desired printer.
  - When the UPD print preferences UI is displayed, you may click **Cancel**.

Installing the HP UPD in Dynamic Mode on the Citrix server

Installing the HP UPD in Dynamic Mode on the Citrix server is not supported in a multi-user environment. Because the Windows operating system limits a print queue to one port at a time, multiple users would compete for the single port bound to the HP UPD queue if installed in Dynamic Mode.

Use a valid auto-created port when running the Citrix StressPrinters test

Citrix knowledge base article CTX109374 suggests that you use LPT1 as the printer port name when running the StressPrinters test – this is also the default setting. However, using LPT1 will give erroneous results because the HP UPD needs to make queries to the printer during the auto-creation process to obtain the printer's configuration. If an invalid printer port like LPT1 is selected, these queries will time out and fail with indications that include exceptionally long auto-create times and/or test failure.

To get results that are accurate and reflect actual performance, use a valid auto-created port instead. These ports can be easily identified because the port name has one of the following formats:

- client:<session #>::<printer name on client>>
- CLIENT\ \<session information>>#\ \<printer name on client>>
- Client\ \<session information>>#\ \<printer name on client>>
- CLIENT/<session information>>#/<printer name on client>>
- Client/<session information>>#/<printer name on client>>

Comparing Citrix and HP UPDs

The Citrix UPD for Presentation Server 4.0, 4.5, XenApp 5.0, or XenApp 6.0 works well for auto-created client printers and for Windows XP or Windows Vista clients. However, you need to be alerted to the following caveats:

- The Citrix UPD cannot be used for auto-created network print share session printers that are connected at login by a Citrix policy. UPD or model-specific print drivers must be installed on the Citrix server for any session printer.
- The Citrix UPD requires Windows XP, Vista, or Windows 7 on the client.
- The Citrix UPD is not supported with thin clients that utilize embedded operating systems because the UPD works in conjunction with the Windows print driver installed on the client for communication of print settings and rendering of print jobs locally.

The HP UPD works well for mapping to any HP PCL or PS client print driver for auto-created client printers. It works well for any client, including thin clients with embedded operating systems.

The Citrix UPD has the ability to provide all printer configurations and user settings from the client printer – such as print-on-both sides as default – to the auto-created printer within the Citrix user session.

The HP UPD has the ability to communicate with the client network printer and determine its configuration, such as tray configuration; however, the HP UPD cannot determine user settings of the client printers from the client. The auto-created printers using the HP UPD will have default print settings, such as print single-sided as default.

HP and Citrix UPD usage recommendations

Table 3 outlines the best usage circumstances when utilizing HP or Citrix UPD.

Table 3. Usage recommendations

Platform	Citrix UPD	HP UPD
MetaFrame XP FR 1, 2, 3	Available for Windows clients only	Better choice for printing to any client
Presentation Server 3.0	Available for Windows clients only	Better choice for printing to any client
Presentation Server 4.0/4.5	Better choice for Windows clients	Better choice for non-Windows clients or thin clients
XenApp 5.0/6.0	Better choice for Windows clients	Better choice for non-Windows clients or thin clients

HP Business Inkjet and Deskjet printers and supported driver versions

Table 4 identifies the HP Business Inkjet and Deskjet printers and minimum levels of associated drivers that are supported in Citrix environments by HP. These printers and printer drivers have been tested by HP. For a description of issue resolutions and known product limitations, refer to Issues when using HP printers in Citrix environments.

Note
The driver versions listed in Table 4 reflect the information that was available at the time of publication. Subsequent to publication, newer drivers may have been released; some drivers may no longer be available for download from the HP website. For the most current driver information, please consult hp.com.

Table 4. HP Inkjet and Deskjet printers with supported drivers

HP printer	Supported in Citrix environment	HP-supported drivers (i)		
		Printer Control Language (PCL)	Host-based	Postscript (PS)
Deskjet 310/ 320/340 (Monochrome)	Not tested	Use OS driver	N/A	N/A
Deskjet 350C	Not tested	XP: Ver. 1.0	N/A	N/A
Deskjet 450	Yes	XP: Ver. 1.0 XP: Ver. 1.8	N/A	N/A
Deskjet 460	Yes	Ver. 1.1	N/A	N/A
Deskjet 1000C	No	N/A	N/A	N/A
Deskjet 1100/1120	Not tested	XP: Ver. 1.1	N/A	N/A
Deskjet 1125C	Not tested	XP: 1120 driver	N/A	N/A
Deskjet 1220C	MetaFrame 1.8 only	Ver. 2.1	N/A	Ver. 2.1
Inkjet 2000C	Not tested	Ver. 3.1 light	N/A	N/A
Inkjet 2500C	Not tested	Ver. 3.1 light	N/A	N/A
Color Inkjet cp1160	Yes	XP: Ver. 1.8	N/A	N/A
Color Inkjet cp1700	Yes	XP: Ver. 1.8	N/A	N/A
BIJ 1000	Yes	Ver. 1.0 2.233.10.0	N/A	N/A
BIJ 1100d	Yes	Ver. 1.1	N/A	N/A
BIJ 1200d	Yes	Ver. 1.0	N/A	N/A
BIJ 2200	Yes	PCL3 Ver. 1.4	N/A	N/A
BIJ 2250	Yes	PCL5 Ver. 1.4	N/A	PCL5/PS Ver. 1.4
BIJ 2230	Yes	PCL3 Ver. 1.0	N/A	N/A
BIJ 2280	Yes	PCL5 Ver. 1.0	N/A	PCL5/PS Ver. 1.0
BIJ 2300	Yes	Ver. 1.0	N/A	N/A
BIJ 2600	Yes	PCL5 Ver. 1.0	N/A	PCL5/PS Ver. 1.0

HP printer	Supported in Citrix environment	HP-supported drivers (i)		
		Printer Control Language (PCL)	Host-based	Postscript (PS)
BIJ 2800	Yes	Ver. 1.0	N/A	N/A
BIJ 3000	Yes	PCL6/PCL5 Ver. 1.0	N/A	PCL6/PCL5/PS Ver. 1.0
Deskjet 9300	Yes	PCL3 Ver. 1.0	N/A	N/A
Deskjet 9600 Series	Yes	PCL3 Ver. 1.1	N/A	N/A
Deskjet 9800 Series	Yes	PCL3 Ver. 1.0	N/A	N/A

(i) There may be a newer driver version for your HP device at hp.com that is also supported. However, the driver versions listed in this table are acceptable and are supported.

Using HP Deskjet printers

HP recognizes the need for small inexpensive printing solutions for Citrix environments and offers a wide range of compatible products to meet the needs of Citrix users. HP recommends the use of Business Inkjets over consumer Deskjets in Citrix environments whenever possible for the following reasons:

- Lower cost per page
- Faster print speeds in normal modes
- Robust networking capabilities, comparable to HP LaserJets
- Lower intervention rates with higher capacity paper trays and ink supplies
- Higher reliability and duty load
- More comprehensive testing in Citrix environments

Many of these printers and printer drivers have not been tested by HP. While these printers and drivers are not directly supported by HP, most customers will be able to use them without issue.

HP Officejet and Photosmart printers and supported driver versions

Customers who wish to use certain HP ink-based AIO printers in Citrix environments may use the associated Deskjet printer driver as listed in Table 5, which limits product use to printing; all other product features (such as fax, scan, and card reader) are available on a walk-up basis. HP recommends downloading the basic features or corporate drivers when using mapped drivers.

AIO and Photosmart products that are leveraged from Lightweight Imaging Device Interface Language (LIDIL)-based Deskjet devices are not supported. These products include PSC and Officejet products leveraged from the Deskjet 3000 series.

Note
The driver versions in Table 5 reflect the information that was available at the time of publication. Subsequent to publication, newer drivers may have been released; other drivers may no longer be available for download from the HP website. For the most current driver information, please consult hp.com.

Table 5. HP ink-based AIO and Photosmart printers with supported drivers

HP printer	Supported in Citrix environment	HP-supported drivers (i)		
		Printer Control Language (PCL)	Host-based	Postscript (PS)
Officejet D series	Not tested	Use Color Inkjet cp1160 driver	N/A	N/A
Officejet G series	Not tested	Use Deskjet 970 driver	N/A	N/A

HP printer	Supported in Citrix environment	HP-supported drivers (i)		
		Printer Control Language (PCL)	Host-based	Postscript (PS)
Officejet H470	Yes	Ver. 1.0	N/A	N/A
Officejet J4500/4640/ 4680	Yes	Ver. 1.0	N/A	N/A
Officejet J5700	Yes	Ver. 1.0	N/A	N/A
Officejet J6400	Yes	Ver. 1.0	N/A	N/A
Officejet K series	Not tested	Use Deskjet 970 driver	N/A	N/A
Officejet Pro K550 series	Yes	PCL3 Ver. 1.0	N/A	N/A
Officejet Pro K850 series	Yes	PCL3 Ver. 1.0	N/A	N/A
Officejet Pro K5300 series	Yes	Ver. 1.0	N/A	N/A
Officejet Pro K5400 series	Yes	Ver. 1.0	N/A	N/A
Officejet Pro K5700 series	Yes	Ver. 1.0	N/A	N/A
Officejet Pro K8600 series	Yes	Ver. 1.0	N/A	N/A
Officejet Pro L7300 series	Yes	Ver. 1.0	N/A	N/A
Officejet Pro L7500 series	Yes	Ver. 1.0	N/A	N/A
Officejet Pro L7600 series	Yes	Ver. 1.0	N/A	N/A
Officejet Pro L7700 series	Yes	Ver. 1.0	N/A	N/A
Officejet R series	Not tested	Use Deskjet 895 driver	N/A	N/A
Officejet T series	Not tested	Use Deskjet 895 driver	N/A	N/A
Officejet V series	Not tested	Use Deskjet 970 driver	N/A	N/A
HP Officejet Pro X451 Printer	Yes	61.135.04.14143 UPD 5.6.0	N/A	UPD 5.6.0
HP Officejet Pro X476 Multifunction Printer	Yes	61.135.04.14143 UPD 5.6.0	N/A	UPD 5.6.0
HP Officejet Enterprise Color X555 Printer series	Yes	61.155.01.16791 All supported OS: HP UPD 5.8	N/A	61.155.01.16791 All supported OS: HP UPD 5.8
HP Officejet Pro X551 Printer	Yes	61.135.04.14143 UPD 5.6.0	N/A	UPD 5.6.0

HP printer	Supported in Citrix environment	HP-supported drivers (i)		
		Printer Control Language (PCL)	Host-based	Postscript (PS)
HP Officejet Pro X576 Multifunction Printer	Yes	61.135.04.14143 UPD 5.6.0	N/A	UPD 5.6.0
HP Officejet Enterprise Color X585 Multifunction Printer series	Yes	61.155.01.16791 All supported OS: HP UPD 5.8	N/A	61.155.01.16791 All supported OS: HP UPD 5.8
HP Officejet 100 Mobile L411	Yes	70.101.801.0		
HP Officejet 150 Mobile All-in-One Scan/Copy	Yes	14.0.0	N/A	N/A
HP Officejet Pro 251dw Printer	Yes	61.135.04.14143 UPD 5.6.1	N/A	UPD 5.6.1
HP Officejet Pro 276dw Multifunction Printer	Yes	61.135.04.14143 UPD 5.6.1	N/A	UPD 5.6.1
Officejet 500/600	Not tested	Use Deskjet 660 driver	N/A	N/A
Officejet 700	Not tested	Use Deskjet 690 driver	N/A	N/A
Officejet 1150	Not tested	Use Deskjet 850 driver	N/A	N/A
Officejet 1170/ 1175	No	N/A	N/A	N/A
Officejet 4100 series	No	N/A	N/A	N/A
Officejet 4200 series	No	N/A	N/A	N/A
Officejet 5100 series	No	N/A	N/A	N/A
Officejet 5500 series	No	N/A	N/A	N/A
Officejet 5600 series	No	N/A	N/A	N/A
Officejet 6000 series	Yes	14.0.301.0	N/A	N/A
Officejet 6100 series	Not tested	Use Deskjet 5550 driver	N/A	N/A
Officejet 6200 series	Not tested	Use Deskjet 5740 driver	N/A	N/A
Officejet 6300 series	Not tested	Use Deskjet 5900 driver	N/A	N/A
Officejet 6500 series	Yes	14.0.301.0	N/A	N/A

HP printer	Supported in Citrix environment	HP-supported drivers (i)		
		Printer Control Language (PCL)	Host-based	Postscript (PS)
Officejet 6500A E710 series	Yes	04.43.07.853		
Officejet 6700	Yes	6.1.7601.17514	N/A	N/A
Officejet 7100 series	Not tested	Use Color Inkjet cp1160 driver	N/A	N/A
Officejet 7200 series	Not tested	Use Deskjet 6540 driver	N/A	N/A
Officejet 7300 series	Not tested	Use Deskjet 6540 driver	N/A	N/A
Officejet 7400 series	Not tested	Use Deskjet 6540 driver	N/A	N/A
Officejet 7500 series	Yes	04.43.07.853	N/A	N/A
Officejet Pro 8000	Yes	14.0.301.0		
Officejet Pro 8000 Enterprise	Yes	8580	N/A	N/A
Officejet Pro 8100	Yes	6.62.0.975		
Officejet Pro 8500 AIO	Yes	14.0.301.0	N/A	N/A
Officejet Pro 8500A AIO	Yes	04.43.07.853		
Officejet Pro 8600	Yes	6.64.0.994		
Officejet 9100 series	Yes	Ver. 1.0	N/A	N/A
PSC 750, 950	Not tested	Use Deskjet 970 driver	N/A	N/A
PSC 1100 series	No	N/A	N/A	N/A
PSC 1200 series	No	N/A	N/A	N/A
PSC 1300 series	No	N/A	N/A	N/A
PSC 1400 series	No	N/A	N/A	N/A
PSC 1500 series	No	N/A	N/A	N/A
PSC 1600 series	No	N/A	N/A	N/A
PSC 2100	Not tested	Use Deskjet 5550 driver	N/A	N/A
PSC 2170/ 2175	Not tested	Use Deskjet 5550 driver	N/A	N/A
PSC 2200	Not tested	Use Deskjet 5550 driver	N/A	N/A
PSC 2300	Not tested	Use Deskjet 5740 driver	N/A	N/A
PSC 2400	Not tested	Use Deskjet 5650 driver	N/A	N/A
PSC 2510	Not tested	Use Deskjet 5650 driver	N/A	N/A

HP printer	Supported in Citrix environment	HP-supported drivers (i)		
		Printer Control Language (PCL)	Host-based	Postscript (PS)
PSC 2600	Not tested	Use Deskjet 6540 driver	N/A	N/A
PSC 2700	Not tested	Use Deskjet 6540 driver	N/A	N/A
PS 2575 AIO	No	N/A	N/A	N/A
PS 3110 AIO	No	N/A	N/A	N/A
PS 3210 AIO	No	N/A	N/A	N/A
PS 3310 AIO	No	N/A	N/A	N/A
Photosmart C3100 AIO series	No	N/A	N/A	N/A
Photosmart C4100 AIO series	No	N/A	N/A	N/A
Photosmart C5100 AIO series	No	N/A	N/A	N/A
Photosmart C6100 AIO series	No	N/A	N/A	N/A
Photosmart C7100 AIO series	No	N/A	N/A	N/A
Deskjet F300 AIO series	No	N/A	N/A	N/A
PS P-1000	Not tested	Use Deskjet 970Cxi driver	N/A	N/A
PS P-1100	Not tested	Use Deskjet 970Cxi driver	N/A	N/A
PS 1115	Not tested	Use Deskjet 990 driver	N/A	N/A
PS1215/1218	Not tested	Use Deskjet 990 driver	N/A	N/A
PS 1315	Not tested	Use Deskjet 990 driver	N/A	N/A
PS 7150	Not tested	Use Deskjet 5550 driver	N/A	N/A
PS 7260	No	N/A	Yes	N/A
PS 7300	Not tested	Use Deskjet 5550 driver	N/A	N/A
PS 7400	No	N/A	Yes	N/A
PS 7500	No	N/A (iii)	N/A	N/A
PS 7600	Not tested	Use Deskjet 5650 driver	N/A	N/A
PS 7700	Not tested	Use Deskjet 5650 driver	N/A	N/A
PS 7800	Not tested	Use Deskjet 6540 driver	N/A	N/A
PS 7900	No	N/A (iii)	N/A	N/A
PS 8000	Not tested	Use 5900 Commercial slim driver	N/A	N/A
PS 8100	Not tested	Use Deskjet 6540 driver	N/A	N/A

HP printer	Supported in Citrix environment	HP-supported drivers (i)		
		Printer Control Language (PCL)	Host-based	Postscript (PS)
PS 8200	No	N/A	N/A	N/A
PS 8400	No	N/A (iii)	N/A	N/A
PS 8700	No	N/A (iii)	N/A	N/A

(i) There may be a newer driver version for your HP device at hp.com that is also supported. However, the driver versions listed in this table are acceptable and are supported.

(iii) The HP Photosmart 7550, 7900, 8400, and 8700 printer series are PCL3 devices but use three cartridge print assemblies that are not supported by Deskjet base drivers.

HP Designjets and supported driver versions

Table 6 identifies the HP Designjet printers and minimum levels of associated drivers that are supported in Citrix environments by HP. These printers and printer drivers were tested by HP. For a description of issue resolutions and known product limitations, refer to Issues when using HP printers in Citrix environments.

Note

The driver versions listed in Table 6 reflect the information that was available at the time of publication. Subsequent to publication, newer drivers may have been released; some drivers may no longer be available for download from the HP website. For the most current driver information, please consult hp.com.

Table 6. HP Designjet printers with supported drivers

HP printer	Supported in Citrix environment	HP-supported drivers (i)		
		HPGL2	Host-based	Postscript (PS)
HP Designjet 70/90	Not tested	N/A	Not tested	N/A
HP Designjet 100/110	Not tested	N/A	Not tested	N/A
HP Designjet T120	Yes	All, PCL3GUI only	N/A	N/A
HP Designjet 30/130	Yes	N/A	6.03	N/A
HP Designjet 500	Yes	N/A	5.35, 6.03	N/A
HP Designjet 500 + HPGL2 card/ 510	Yes	All	All	N/A
HP Designjet T520	Yes	All, HPGL	N/A	N/A
HP Designjet 800	Yes	5.35 6.11	N/A	4.29
HP Designjet 5500	Yes	6.13	N/A	4.29
HP Designjet 1050/1055	Yes	4.66	N/A	4.29
HP Designjet T790	Yes	All	N/A	All
HP Designjet T795	Yes	All	N/A	All

HP printer	Supported in Citrix environment	HP-supported drivers (i)		
		HPGL2	Host-based	Postscript (PS)
HP Designjet T920 ePrinter series	Yes	All	N/A	All
HP Designjet T1100/ T1120/T610/ T620/T770/ T1200	Yes	All	N/A	All
HP Designjet T1300	Yes	All	N/A	All
HP Designjet T1500 ePrinter series	Yes	All	N/A	All
HP Designjet T2300	Yes	All	N/A	All
HP Designjet T2500 eMultifunction series	Yes	All	N/A	All
HP Designjet T3500 Production eMFP	Yes	All	N/A	All
HP Designjet 4000/ 4500/4020/ 4520	Yes	All	N/A	All
HP Designjet Z5400 PostScript ePrinter	Yes	N/A	N/A	All
HP Designjet D5800 Production Printer	Yes	All	N/A	All
HP Designjet Z6600 Production Printer	Yes	All	N/A	All
HP Designjet Z6800 Photo Production Printer	Yes	All	N/A	All
HP Designjet T7100	Yes	All	N/A	All
HP Designjet T7200 Production Printer	Yes	All	N/A	All

(i) There may be a newer driver version for your HP device at hp.com that is also supported. However, the driver versions listed in this table are acceptable and are supported.

Issues when using HP printers in Citrix environments

Resolved issues

Job storage not working as expected when printing from a XenApp published application

A job will not be stored in-device when printing from a published application in XenApp if the application is published as Allow anonymous users. This happens because UPD job storage requires the user ID to store the job; however, in this case, the application is run as an anonymous user on the XenApp server.

Process HPMUPxxx.BIN fails to shut down

In HP UPD versions prior to 5.1, a process named HPMUPxxx.BIN (HPMUP081.bin, HPMUP083.bin, HPMUP084.bin, or HPMUP091.bin) failed to shut down during Citrix session logoff. This process has been removed in UPD 5.1.

Auto-creation performance in Citrix

The HP UPD versions 4.1, 4.5, and 4.7 and discrete print driver versions 61.071.xxx.xx and 61.081.xxx.xx have a known performance issue when auto-creating printers at user login. The process `msiexec.exe` might consume CPU resources

and slow auto-creation of the printer as well as other applications hosted on the Citrix server. HP UPD version 5.0 included a fix for this issue.

In general, the time it takes to auto-create a printer using the HP UPD or a discrete HP print driver version 60.xxx.xxx.xxx or 61.xxx.xx.xxx is 2 – 10 seconds, depending upon the performance and load of the print spooler and other processes on the Citrix server. This is due to the time taken to initialize the HP UPD or discrete print driver.

When using the Citrix StressPrinters tool to test the HP UPD, selecting the default LPT1: port from the tool provides install times that are not accurate. The HP UPD attempts to communicate with the printer over the LPT1: port and times out after a long period of time. To achieve a true simulation of the HP UPD, run StressPrinters from a Citrix server and select a Citrix redirected port that is connected to a live network printer.

HKCU\Software\Hewlett-Packard registry hive increases in size in Citrix
Print driver versions 61.071.xxx.xx fail to clean up registry data written to the HKEY_CURRENT_USER\Software\Hewlett-Packard registry hive. Keys under this hive will grow over time – a new registry key is created each time a user logs on to a Citrix server for each printer auto-created. An example of such a key is HKEY_CURRENT_USER\Software\Hewlett-Packard\165b5934-15c4-4a84-c392-d044915211da where 165b5934-15c4-4a84-c392-d044915211da is a globally unique identifier (GUID). HPBIDIInfo and HPCUSTOMForms are keys in the GUID hive.

Newer versions of the print driver, such as version 61.081.xxx.xx or the latest HP UPD, have a fix for this issue.

Memory issues cause problems with spooler, auto-creation, and server performance
The following components may cause issues:

- hpbmini.dll – Memory leaks and memory corruption are possible with the 1.0.0.18 (or older) dll, which will not cause a spooler crash but may degrade server performance. This issue occurs with 60.x.x.x and 4.x.x.x. print drivers containing hpbmini.dll version 1.0.0.18 or older. Version 1.0.0.19 and newer has the fix.

  Version 4.x.x.x print drivers have an issue unloading hpbmini.dll, which will probably cause a spooler crash when the server has a heavy load of connected users.
- hpcdmc32.dll – Memory leaks are possible with the 1.0.2.30 (or older) dll, which will not cause a spooler crash but may cause performance degradation. This issue occurs with 60.x.x.x and 4.x.x.x print drivers containing hpcdmc32.dll version 1.0.2.30 or older. UPD version 5.7.0 and later has the fix.

  Other symptoms caused by the above components include failed auto-creation of printers and auto-created client printers not being deleted when users log off.

Solution
To determine if these issues are affecting a server and for a workaround, rename hpbmini.dll and hpcdmc32.dll in the windows\system32\spool\drivers\w32sx86\3 directory and remove hpbmini.dll from DependentFiles registry entry in HKLM\SYSTEM\CurrentControlSet\Control\Print\Environments\Windows NT x86\Drivers\Version-3\<driver> hive.

For HP print drivers version 4.x.x.x, HP strongly recommends upgrading to the 60.x.x.x or 61.x.x.x driver versions available on hp.com. If one is not available, then use the HP UPD. For existing 60.x.x.x drivers with these suspected issues, HP strongly recommends upgrading to the latest driver available on hp.com.

Auto-creation of HP printer fails with Citrix
This issue occurs when an HP PCL driver (version 4.3.x.x to 4.20.x.x.) is installed on the server.

When Citrix auto creates using an older HP driver, the process halts and any remaining printers fail to auto-create. To resolve this situation, update the HP driver on the server to the version listed in the tables above.

Client driver settings lost during auto-creation
This is a limitation of MetaFrame 3.0 and older versions. Most driver settings – such as tray configuration, duplexer, printer memory, and quick sets – are not read at auto-creation. Paper size and orientation are the only client settings that are read during auto-creation; the remaining settings are determined by the default settings of the driver installed on the server.

Citrix has provided this functionality in Presentation Server 4.0 and beyond by using the Citrix UPD for client printers. The server must be at least 4.0 and the client must be a 32-bit Windows client (Windows XP, Windows Vista, Windows 7) with at least ICA version 9.0.

If Feature Release 1/Service Pack 1 or later is installed on a MetaFrame/XP server, go to the properties of the auto-created printer and configure the driver for features manually, then set the tray configuration, duplexer, and hard disk settings. The settings are saved to the user's profile when the user logs out and will be restored the next time the user logs in. This feature is available in environments running MetaFrame XP with Feature Release 1 and Service Pack 1 or greater.

UPD 12070 Intermittent installation errors/failures in Citrix XenDesktop
Intermittent installation errors have been reported when trying to connect to a print server from a Provisioned XenDesktop client. These errors are not directly related to UPD, as they have been experienced when using non-HP drivers. The failure appears to be related to downloading and installing the driver through point and print.

HP and Citrix are investigating. The work around is to pre-install the driver on the provisioned image before sharing it, so as to remove the need to download and install a printer driver. This issue is resolved in UPD 5.6.1

UPD 10841 Issue description: A registry growth in HKCU\DEFAULT\Software\Hewlett Packard
Significant improvements have been made in UPD 5.6. HP is still investigating. This issue is resolved in UPD 5.6.1

Unresolved issues

HP Deskjet printer drivers do not load under non-administrator privileges
HP does not recommend the use of host-based printers in Citrix environments. Host-based printers rely upon the bulk of the rendering being performed on the host machine by the host-based driver and are designed for direct-connect, non-networked environments. As a result, host-based print jobs can be considerably larger than PCL-based jobs, which is undesirable when printing over constrained bandwidth connections. An alternative is to use the Citrix UPD to print to a host-based client printer.

Known limitation of the HP UPD when used for auto-created printers or redirected printers with directly attached client printers
Outside the Citrix environment, the HP UPD can configure itself according to actual printer features – such as tray configuration – by communicating directly with the printer. However, when the HP UPD is installed on the server and mapped for auto-created printers, it cannot communicate with the printer installed on the client if the client's printer is directly attached to the client machine (via USB, for example).

If the printer is networked, automatic configuration is supported. For directly attached printers on the client, such as USB-connected printers, the HP UPD PCL driver defaults to black-and-white, no extra trays and no device-specific paper handling. The HP UPD PS driver defaults to color, no extra trays and no device-specific paper handling.

Note
Printers that are attached to the client via network ports are not affected. The HP UPD, installed on the server, can communicate with client printers that are available on the network.

Microsoft issues

HP printer with DOT4 port on client does not create a redirected printer in Terminal Server
This issue does not occur with Citrix, only with Terminal Server.

If an HP printer is connected to a client with a USB DOT4 port, then no redirected printer is created when logging on to a Terminal Server. Microsoft has a workaround described in their knowledge base article 302361.

Frequently asked questions

Which printing features are supported in Terminal Server/Citrix environments?

All printing features of the driver are supported in Terminal Server/Citrix environments with the exception of bi-directional communication to client printers. Bi-directional communication to networked printers is unaffected.

Is my HP printer supported in a Citrix environment by HP?

Check the LaserJet, Business Inkjet and Deskjet, ink-based AIO and Photosmart, and Designjet printer sections of this white paper to see if your printer is listed as supported.

Is a certain HP print driver certified by Citrix?

The HP UPD is listed as "Citrix Ready." Other print drivers and printers may have been tested by HP and Citrix in Presentation Server and XenApp environments. To determine if a particular printer is supported, check the appropriate section of this white paper.

All support for the printer and print driver is provided by HP.

How do I configure my Citrix server to map print drivers, use and configure the Citrix UPD, or configure and session network printers?

Consult the Citrix Advanced Concept Guide and other online documentation at citrix.com.

Why do my auto-created printer settings not reflect the correct printer settings from my client printers?

Presentation Server 4.0/4.5, XenApp 5.0, XenApp 6.0, and the Citrix UPD can read local printer settings from the client. The server must be at least 4.0 and the client must be a 32-bit or 64-bit Windows client with at least ICA version 9.0.

Can I use my AIO, MFP, MFD, or scanner connected to my client to scan to applications within my Citrix ICA session?

Yes, Presentation Server 4.0/4.5, XenApp 5.0, or XenApp 6.x with a 32-bit or 64-bit Windows client and ICA 9.0 support TWAIN devices directly connected to the client.

Where can I download the Windows Server 2003 driver for Deskjet, PSC, Officejet, and Photosmart printers?

HP does not develop Windows Server 2003 drivers for consumer-based inkjet products. Microsoft recommends using XP drivers which should work without issue.

Citrix-tested HP printers

Citrix tested the HP printers shown in Table 7 and their associated 32-bit and 64-bit drivers with XenApp 6.5. During this testing, no problems were encountered when running Citrix test cases with the HP printers and drivers listed for each test case.

Table 7. HP printers tested by Citrix

HP printer tested	Software tested
Officejet Pro K5400	XenApp 6.5
Officejet Pro L7680 AIO	Citrix Receiver for Windows version 13.0
Officejet Pro 8500	HP UPD, PCL, PS printers and 32-bit/64-bit drivers
Color LaserJet 4700n	
Color LaserJet CP4525	
Color LaserJet CP2025	
Color LaserJet CP1518ni	
Color LaserJet CP3525n	
LaserJet P2035n	
LaserJet 2015dn	
Designjet T1300	
Designjet T790	

Testing methodology for HP printers

Citrix tested the following areas:

- Network print servers
- Printer policies
- Client printer properties
- Universal printer
- Auto-created client printers
- Printer driver compatibility
- Client printer driver mapping
- Dynamic printer mapping

The testing performed in each of these areas is described below. Each description outlines the following:

- Description – Basic description of the feature being tested
- Test methodology – Summary of the particular testing that was performed

Note
Actual testing was much more extensive and is therefore beyond the scope of this document.

Various client and server systems from numerous manufacturers were used throughout the testing process. The number of systems and configurations are outside the scope of this document.

Printers were connected to both client and server systems, and as stand-alone network printers using HP Jetdirect print server devices. Printers were connected to the client and server systems using IP addresses and USB cables.

The 32- and 64-bit printer driver versions listed are the versions that were available at time of testing. Newer versions may be available.

Network print servers

Description

Network print servers – those not running XenApp – are servers with shared printers attached to them. Administrators add these shared printers to the Citrix Session Printers policy in order to make them available to all users when they connect to the server farm.

Test methodology

The HP printers listed in Table 8 were attached to the print server using a parallel cable, USB cable, or TCP/IP port or via Jetdirect. These printers were configured for multiple users. Drivers for the printers were downloaded from the HP Driver Support website.

A printer policy was then created for session printers and a user filter created for the session printer policy for domain users, allowing domain users logged on to the XenApp server farm to verify that the shared network printer was available in the client session and that the client could print successfully.

Table 8. Network print servers tested by Citrix

HP printer tested	HP driver version
Color LaserJet 4700n	Color LaserJet 4700 PCL5c (61.115.1.10527) Color LaserJet 4700 PS (61.115.1.10527)
Color LaserJet CP3525n	Color LaserJet CP3525 PCL6 (61.115.1.10527) Color LaserJet CP3525 PCL6 (6.1.7601.17514)
LaserJet P2015dn	LaserJet P2015 series PCL5e (61.115.1.10527) LaserJet P2015 series PCL6 (61.115.1.10527) LaserJet P2015 series PS (61.115.1.10527)
LaserJet P2035n	LaserJet P2035n XPS (2.0.0.80825)

No issues were discovered when testing the XenApp Session Printers policy using these HP printers and drivers.

Printer policies

Description

Policies are used to apply XenApp settings (for client device mapping, for example) to specific users, clients, and servers. Printer policies are used for configuring settings such as auto-creation, printer property retention, print job routing, printer mapping, printer driver configuration, and session printers.

Test methodology

The HP printers listed in Table 9 were installed on the client system using a parallel cable, USB cable, or TCP/IP port; drivers for the printers were downloaded from the HP Driver Support website.

The client system connected to the XenApp server farm. Each type of printer setting that is configurable by printer policies was checked to verify operability with the HP printer and driver and to ensure that the client could print successfully.

Table 9. Printers tested by Citrix

HP printer tested	HP driver version
Color LaserJet 4700n	Color LaserJet 4700 PCL5c (61.115.1.10527) Color LaserJet 4700 PS (61.115.1.10527)
Color LaserJet CP3525n	Color LaserJet CP3525 PCL6 (61.115.1.10527) Color LaserJet CP3525 PCL6 (6.1.7601.17514)
LaserJet P2015dn	LaserJet P2015 series PCL5e (61.115.1.10527) LaserJet P2015 series PCL6 (61.115.1.10527) LaserJet P2015 series PS (61.115.1.10527)
LaserJet P2035n	LaserJet P2035n XPS (2.0.0.80825)
Officejet Pro K5400	Officejet Pro K5400 series (6.1.7601.17514)
Officejet Pro L7680 All-in-One	Officejet Pro L7600 series (6.1.7601.17514)

No issues were discovered when testing XenApp server printer policies using these HP printers and drivers.

Client printer properties

Description

Client printer properties control the configuration of printers installed on the client system.

These properties are set locally on the client's desktop. Some of the more common settings are propagated to the auto-created client printer in the user's session.

Test methodology

The HP printers listed in Table 10 were installed on the client device using a parallel cable, USB cable, or TCP/IP port; drivers for the printers were downloaded from the HP Driver Support website.

Setting changes were made to the HP printer installed locally on the client system, after which the client connected to the XenApp server farm. The settings were propagated and the client was able to print successfully.

Table 10. Printers tested by Citrix

HP printer tested	HP driver version
LaserJet P2035n	LaserJet P2035n XPS (2.0.0.80825)
LaserJet P2015dn	LaserJet P2015 series PCL5e (61.115.1.10527) LaserJet P2015 series PCL6 (61.115.1.10527) LaserJet P2015 series PS (61.115.1.10527)
Officejet Pro K5400	Officejet Pro K5400 series (6.1.7601.17514)
Officejet Pro L7680 All-in-One	Officejet Pro L7600 series (6.1.7601.17514)

No issues were discovered when testing client printer properties using these HP printers and drivers.

Universal printer

Description

Auto-creation of client printers requires drivers for these printers to be available on XenApp servers. When you use universal printing, you do not need to install native printer drivers in your server farm; rather, the client printers are auto-created using Citrix universal printing.

Test methodology

The HP printers listed in Table 11 were installed on the client system using a parallel cable, USB cable, or TCP/IP port. Because printer drivers are not needed to test the universal printer, only HP printers are tested with this feature.

The client system connected to the XenApp server farm, which verified that the client's locally attached HP printers were available in the user's session and that the client could print successfully to these printers.

Table 11. Printers tested by Citrix

HP printer tested	Citrix driver version
HP Color LaserJet 4700	Citrix Universal Printer (6.2.0.510)
HP Color LaserJet CP3525n	Citrix XPS Universal Printer (6.2.0.510)
HP LaserJet P2015dn	
HP LaserJet P2035n	
HP Officejet Pro K5400	
HP Officejet Pro L7680 All-in-One	

No issues were discovered when testing Citrix universal printing using these HP printers.

Auto-created client printers

Description

Auto-created client printers are printers that are connected to ports on users' Win16, Win32, and Win64 client devices (Windows CE, DOS, and Macintosh OS platforms).

Test methodology

The HP printers listed in Table 12 were installed on the client system using a parallel cable, USB cable, or TCP/IP port; drivers for the printers were downloaded from the HP Driver Support website.

The client system connected to the XenApp server farm, which verified that the client's locally-attached HP printer was available in the user's session and that the client could print successfully to this printer.

Table 12. Printers tested by Citrix

HP printer tested	HP driver versions
HP Color LaserJet 4700n	HP Color LaserJet 4700 PCL5c (61.115.1.10527) HP Color LaserJet 4700 PS (61.115.1.10527)
HP LaserJet P2035n	HP LaserJet P2035n XPS (2.0.0.80825)
HP Color LaserJet CP3525n	HP Color LaserJet CP3525 PCL6 (61.115.1.10527) HP Color LaserJet CP3525 PCL6 (6.1.7601.17514)
HP LaserJet P2015dn	HP LaserJet P2015 series PCL5e (61.115.1.10527) HP LaserJet P2015 series PCL6 (61.115.1.10527) HP LaserJet P2015 series PS (61.115.1.10527)
HP Officejet Pro K5400	HP Officejet Pro K5400 series (6.1.7601.17514)
HP Officejet Pro L7680 All-in-One	HP Officejet Pro L7600 series (6.1.7601.17514)

No issues were discovered when testing auto-created client printers using these HP printers and drivers.

Printer driver compatibility

Description

Some printer drivers can cause server problems when printing to client printers in the XenApp server farm and may result in a fatal system error on the server. Because of this, you might need to prevent the auto-creation of client printers that use certain printer drivers. The printer driver compatibility feature allows you to designate or prohibit drivers for use with client printers.

Test methodology

The HP printers listed in Table 13 were installed on the client system using a parallel cable, USB cable, or TCP/IP port; drivers for the printers were downloaded from the HP Driver Support website.

The printer driver mapping and compatibility policy was configured and enabled on the XenApp Server; in addition, the driver for the HP printer was configured to allow the auto-creation of the client printer using that particular HP driver. After the client had connected to the XenApp server farm, the auto-creation of the client printer was verified. The client printer was able to print successfully.

Subsequently, in the printer driver mapping and compatibility policy, the driver for the HP printer was configured to disallow the auto-creation of the client printer using that particular HP driver. On this occasion, the client printer was not auto-created after the client connected to the Citrix server farm. There were no issues with preventing the HP printer from being auto-created.

Table 13. Printers tested by Citrix

HP printer tested	HP driver versions
Color LaserJet 4700n	Color LaserJet 4700 PCL5c (61.115.1.10527) Color LaserJet 4700 PS (61.115.1.10527)
Color LaserJet CP3525n	Color LaserJet CP3525 PCL6 (61.115.1.10527) Color LaserJet CP3525 PCL6 (6.1.7601.17514)
LaserJet P2015dn	LaserJet P2015 series PCL5e (61.115.1.10527) LaserJet P2015 series PCL6 (61.115.1.10527) LaserJet P2015 series PS (61.115.1.10527)
Officejet Pro K5400	Officejet Pro K5400 series (6.1.7601.17514)
Officejet Pro L7680 All-in-One	Color LaserJet 4700 PCL5c (61.115.1.10527) Color LaserJet 4700 PS (61.115.1.10527)

No issues were discovered when testing the XenApp printer driver compatibility feature using these HP printers and drivers.

Client printer driver mapping

Description

When using XenApp clients, you map printer drivers on the server to client drivers that have different names for the same printer. You need to use mapping if the printer drivers installed on XenApp servers have names for client printers that differ from the drivers used on client systems.

Test methodology

The HP printers listed in Table 14 were attached to the client system using a parallel cable, USB cable, or TCP/IP port. The printer was installed on the client system; drivers were downloaded from the HP Driver Support website and installed on the XenApp server.

A printer driver with a different name than the HP driver installed on the server was installed on the client system. The client printer driver was mapped to the HP printer driver installed on the server. The client connected to the XenApp server farm and the auto-creation of the client printer was verified. The client printer was able to print successfully.

Table 14. Printers tested by Citrix

HP printer tested	HP driver versions
HP Color LaserJet 4700	HP Color LaserJet 4700 PCL5c (61.115.1.10527) HP Color LaserJet 4700 PS (61.115.1.10527)
HP LaserJet P2035n	HP LaserJet P2035n XPS (2.0.0.80825)
HP Color LaserJet CP3525n	HP Color LaserJet CP3525 PCL6 (61.115.1.10527) HP Color LaserJet CP3525 PCL6 (6.1.7601.17514)
HP LaserJet P2015dn	HP LaserJet P2015 series PCL5e (61.115.1.10527) HP LaserJet P2015 series PCL6 (61.115.1.10527) HP LaserJet P2015 series PS (61.115.1.10527)
HP Officejet Pro K5400	HP Officejet Pro K5400 series (6.1.7601.17514)

HP printer tested	HP driver versions
HP Officejet Pro L7680 All-in-One	HP Officejet Pro L7600 series (6.1.7601.17514)

No issues were discovered when testing client printer driver mapping with XenApp using these HP printers and drivers.

Dynamic printer mapping

Description

When using XenApp clients, users can dynamically map client printer objects to the remote session in the server.

Test methodology

The HP printers listed in Table 15 were attached to the client system using a parallel cable, USB cable, or TCP/IP port. The printer was installed on the client system; drivers were downloaded from the HP Driver Support website and installed on the XenApp server.

The client connected to a session on the XenApp server. The user removed the printer object from the client machine by disconnecting the printer from the machine or removing the device from the client's control panel. The user then reconnected the same printer device and tried to print to this device. The client printer was able to print successfully.

Table 15. Printers tested by Citrix

HP printer tested	HP driver versions
HP Color LaserJet 4700n	HP Color LaserJet 4700 PCL5c (61.115.1.10527) HP Color LaserJet 4700 PS (61.115.1.10527)
HP LaserJet P2035n	HP LaserJet P2035n XPS (2.0.0.80825)
HP Color LaserJet CP3525n	HP Color LaserJet CP3525 PCL6 (61.115.1.10527) HP Color LaserJet CP3525 PCL6 (6.1.7601.17514)
HP LaserJet P2015dn	HP LaserJet P2015 series PCL5e (61.115.1.10527) HP LaserJet P2015 series PCL6 (61.115.1.10527) HP LaserJet P2015 series PS (61.115.1.10527)
HP Officejet Pro K5400	HP Officejet Pro K5400 series (6.1.7601.17514)
HP Officejet Pro L7680 All-in-One	HP Officejet Pro L7600 series (6.1.7601.17514)

No issues were discovered when testing dynamic printer mapping with XenApp using these printers and drivers.

Citrix-tested scanning capability of HP AIO devices

Citrix tested the HP AIO devices shown in Table 16 and their associated drivers with XenApp 6.0. Although they are multifunction devices, Citrix only tested the scanning capability of these AIO devices; no other functionality was tested. During the testing, no problems were encountered when running Citrix test cases with the HP AIO devices and drivers listed for each test case.

Table 16. HP AIO printers tested by Citrix

HP AIO printer tested	Software tested
HP Officejet Pro L7680 All-in-One	XenApp 6.5 Citrix Receiver for Windows version 13.0

Test methodologies were similar to those described in the Citrix-tested HP printers section. However, the AIO devices were always connected via SCSI or USB; the devices were not tested as stand-alone network printers.

Citrix tested the AIO device's TWAIN redirection capability.

TWAIN redirection

Description

XenApp can now redirect client-connected imaging devices, notably document scanners, from the client to the server. This allows users to control client-attached imaging devices from applications that run on the server.

Test methodology

The HP AIO devices listed in Table 17 were connected to the client system using a SCSI cable or USB cable; the driver for the AIO device was either downloaded from the HP Driver Support website or installed from the CD-ROM supplied with the device.

The client system connected to the XenApp server farm, which verified that TWAIN-compatible applications in a XenApp server session could recognize and utilize the AIO device for scanning within the particular application.

Table 17. HP AIO devices tested by Citrix

HP printer tested	TWAIN driver tested
HP Officejet Pro L7680 All-in-One	HP Officejet Pro L7600 series (6.1.7601.17514)

No issues were discovered when testing TWAIN redirection using these HP AIO devices.

Planned future testing

Testing of HP LaserJet, Business Inkjet, Designjet, and Deskjet printers and AIO devices is planned to continue with the next release of XenApp. Newer model HP LaserJet, Business Inkjet, Designjet, and Deskjet printers and AIO devices will be added to the test matrix.

Summary

This document describes the results of tests conducted by HP to determine how well HP printers perform in Citrix environments. The tests are explained and any issues that occurred when the tests were run are described.

Citrix has also collaborated with HP to test scanning functions on select HP All-in-One (AIO) devices and their associated HP TWAIN drivers in a XenApp environment. These tests were run to determine how HP AIO devices and their associated TWAIN drivers performed with the scan-related feature tests that Citrix uses to test its XenApp server and client software. This document explains the scan tests performed by Citrix, identifies which HP AIO devices and TWAIN driver versions were used, and describes any issues that occurred while these tests were being performed.

For more information

Citrix and Microsoft hotfixes for XenApp 6.5 and Windows Server 2008 R2

For more information and to download hotfixes for XenApp 6.5 and Windows Server 2008 R2, please visit: http://support.citrix.com/article/CTX129229.

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